

**REMARKS**

Reconsideration and allowance are respectfully requested on the basis of the amended claims.

Claims 1, 4-17 and 43-45 are pending.

In order to facilitate prosecution, claim 1 has been amended to refer to the specific sequences of SEQ ID NOs: 2, 4 and 6 and that amendment finds basis in claims 54 and 55. Claim 1 has also been amended to help clarify the nature of the method step.

New claim 60 has been added. It corresponds to the subject matter of claim 1, but also refers to sequences with at least 90% sequence identity which retain activity. The amendment finds basis at page 21, lines 27-29, and page 22, lines 15-17, of the specification.

Corresponding amendments to those made to claim 1 have also been made to claim 43.

**Claim Objection - Item 3 of the Office Action**

Claim 46 has been cancelled rendering the objection raised in respect of that claim moot.

It is respectfully submitted that claims 4, 6, 8, 10 and 43 should not have to be amended to delete non-elected subject matter. In particular, all of the claims fall within Group I which was elected by the Applicant. Upon an indication that the elected species were not found (see the Examiner's statement on page 10 of the Action, "None of the available prior art documents discloses all of the features of independent claim 1"), the search should have been extended to the non-elected species and the requirement for an election of species should have been withdrawn. While the claims encompass non-elected species, generic claims are still being pursued. It is therefore premature to have to amend the claims at the present time.

Withdrawal of the objections is requested.

**Claim Rejection - 35 USC 112, first paragraph - written description - Items 4 and 5 of the Office Action**

The Applicant notes that the Examiner considers the claimed method employing the polypeptide sequences of SEQ ID NOS: 2, 4 and 6 does comply with the written description requirement (see page 5 of the Action). Therefore, in order to facilitate prosecution, the Applicant has decided to restrict claim 1 to the use of those specific sequences. The claims therefore correspond to subject matter that is indicated to satisfy the written description requirement and hence it is believed the rejection has been traversed. Withdrawal of the written description rejection is requested.

New claim 60 has been added and it refers to amino acid sequences having at least 90% sequence identity over their entire length to the CCRL2 polypeptides of SEQ ID NO: 2 or 4 or the MIP-4 polypeptide of SEQ ID NO: 6. The claim also specifies that the functional activity is retained: i.e., for CCRL2 receptor activity is retained and for MIP-4 the ability to bind to and activate signalling activity of CCRL2 is retained. Thus, claim 60 corresponds to a substantial narrowing of the claim in comparison to the original claim 1 to facilitate prosecution. Claim 60 is tied to the specific sequences of SEQ ID NOS: 2, 4 and 6 and it specifies that the claimed sequences having at least 90% identity over the entire sequence must retain functionality. From the Applicant's teachings and guidance in the present specification as filed, it would be apparent to the skilled person that such a high level of sequence identity and retention of functionality are described in the original disclosure of the invention. It is therefore submitted that claim 60 also satisfies the written description requirement.

**Claim Rejection under 35 USC 112, first paragraph - enablement - Item 6 of the Office Action**

Claim 1 is amended to limit the scope of the claims to the sequences of SEQ ID NOS: 2, 4 and 6. The Applicant notes that such claims, so far as they relate to SEQ ID NOS: 4 and 6, are acknowledged as enabled in the Office Action. The Action argues that the sequence of SEQ ID NO: 2 is not provided as a working example. However, it would be reasonable to predict that the sequence would be effective without requiring undue experimentation. Working examples are not required by Section 112.

As taught by the Applicant at page 4, lines 23-25; page 21, lines 24-25; and page 22, lines 13 and 17 of the present specification, SEQ ID NO: 2 corresponds to a long form of the CCRL2 receptor (CRAM-A) and SEQ ID NO: 4 to a short form of the CCRL2 receptor (CRAM-B). Thus, while the Examples employ the short form in SEQ ID NO: 4, the long form of the receptor in SEQ ID NO: 2 would also bind as it encompasses the whole sequence of SEQ ID NO: 4. In particular, as the short form CRAM-B is capable of binding its ligand MIP-4, the long form CRAM-A encompassing the whole sequence of the short form also contains the binding site for MIP-4. Thus, the polypeptides of both SEQ ID NOS: 2 and 4 include the binding site for MIP-4 and, hence, are both receptors for MIP-4. Other such examples of short and long forms of receptors are known with both being active.

Therefore, the claimed subject matter is fully enabled by the present specification because of its sequence identity to SEQ ID NO: 4 and the fact it is a MIP-4 polypeptide in the same way as SEQ ID NO: 4. Withdrawal of the enablement rejection is requested.

New claim 60 has been added and it refers to amino acid sequences having at least 90% sequence identity over their entire length to the CCRL2 polypeptides of SEQ ID NO: 2 or 4 or the MIP-4 polypeptide of SEQ ID NO: 6. The claim also specifies that the functional activity is retained: i.e., for CCRL2 receptor activity is retained and for MIP-4 the ability to bind to and activate signalling activity of CCRL2 is retained. Thus, claim 60 corresponds to a substantial narrowing of the claim in comparison to the original claim 1 to facilitate prosecution. Claim 60 is tied to the specific sequences of SEQ ID NOS: 2, 4 and 6 and it specifies that the claimed sequences having at least 90% identity over the entire sequence must retain functionality. From the Applicant's teachings and guidance in the present specification as filed, it would be apparent to the skilled person that such a high level of sequence identity and retention of functionality are enabled by the original disclosure of the invention. It is therefore submitted that claim 60 also satisfies the enablement requirement.

**Claim Rejection under 35 USC 112, second paragraph - definiteness - Item 8 of the Office Action**

In order to address the rejections raised:

(i) Claim 1, part (b) has been amended to define more clearly the method step. It now refers to a method comprising “monitoring binding of the CCRL2 polypeptide to the MIP-4 polypeptide or activity of the CCRL2 polypeptide.” Thus, an active process step of “monitoring” is explicitly recited. Furthermore, the amended claim defines how the measurement of whether the candidate agent modulates the interaction between the CCRL2 polypeptide and the MIP-4 polypeptide is determined: i.e., by examining either binding of the two proteins or activity of the CCRL2 polypeptide. Therefore, the nature of the method and what is performed are adequately defined.

Parts (a) and (b) of claim 1 are linked as shown by the recitation that the method relates to contacting the CCRL2 and MIP-4 polypeptides in the presence of the candidate agent under conditions where the polypeptides would normally bind, and then monitoring what the effect of the candidate agent is either by examining binding of the two polypeptides or the activity of the receptor CCLR2.

(ii) Claim 43 is amended to specify that the two elements (i) and (ii) are present in separate containers. It is apparent from the method claims of the present application which, in step (a) specify that the two components are combined in an initial step, that the two must be separate initially. In respect of the rejection that claim 43 refers to a polynucleotide, whereas earlier method claim 1 does not, it is respectfully submitted that it is not inappropriate for the claim to do so. In particular, the polynucleotide can be expressed to give rise to the CCRL2 polypeptide and hence may be used as a source of the polypeptide for the assay. Therefore, reference to a polynucleotide is permissible.

(iii) In respect of the rejection of claim 44, it is submitted that it is apparent what the interrelationship of the different elements is, given that the claim refers to the polynucleotide of (ii) being transformed into a cell, the kit still comprises a polynucleotide as specified by part (ii) of claim 43.

Withdrawal of the rejections is requested.

#### **Closest Prior Art/Non-Obviousness - Item 9 of the Office Action**

The Applicant gratefully acknowledges the indication by the Examiner that the subject matter of the claims is non-obvious.

**Conclusion**

Having fully responded to the Office Action, the Applicant submits that the claims are in condition for allowance and earnestly solicit an early Notice to that effect. The Examiner is invited to contact the undersigned if any further information is required.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

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